

## **REMARKS**

In the Final Action dated June 3, 2004, claims 11-20, 24 and 70-71 are pending and under examination. Claims 11-12 are allowed. Claims 13-20 and 24 are rejected under 35 U.S.C. §112, first paragraph, for allegedly lacking enabling support. Claims 13-20 and 24 are rejected under 35 U.S.C. §112, first paragraph, for allegedly failing to satisfy the written description requirement. Claims 17-20 and 24 are rejected under 35 U.S.C. §112, second paragraph, as allegedly indefinite. Claims 13-20 and 24 are rejected under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent No. 5,622,860. Claims 70-71 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 5,622,860.

This Response addresses each of the Examiner's rejections and objections. Applicants therefore respectfully submit that the present application is in condition for allowance or at least in better condition for appeal. Favorable consideration of all pending claims is therefore respectfully requested.

Regarding the rejection of claims 13-20 and 24 for allegedly lacking enabling support, the Examiner maintains that the specification does not reasonably provide enablement for nucleic acid molecules which encode polypeptides comprising only portions of SEQ ID NO: 3 or 4 (as in claims 15-16), or which need only share a percent identity with, or hybridize under the recited conditions to, the encoding polynucleotides.

In an effort to favorably advance prosecution of the present application, Applicants have canceled claims 13-16 and have amended claims 17-20 and 24 to depend on allowed claims 11-12. Applicants reserve the right to file a continuation application to pursue the subject matter of originally filed claims.

It is respectfully submitted that the claims, as presently amended, are fully supported by the specification in compliance with the enablement requirement under 35 U.S.C. §112, first paragraph. As such, the rejection of claims 13-20 and 24 under 35 U.S.C. §112, first paragraph (enablement), is overcome. Withdrawal of the rejection is therefore respectfully requested.

Regarding the rejection of claims 13-20 and 24 for allegedly lacking adequate written description in the specification, the Examiner maintains that the features that are recited in the claims (i.e., specified sequence identity and activity) are not sufficient to convey to those skilled in the art that the inventors had possession of the claimed nucleic acid molecules.

Applicants respectfully submit that claims 13-16 have been canceled. Claims 17-20 and 24, as amended, ultimately depend on allowed claims 11-12. It is respectfully submitted that the claims, as presently amended, are adequately described in the specification in compliance with the written description requirement under 35 U.S.C. §112, first paragraph. As such, the rejection of claims 13-20 and 24 under 35 U.S.C. §112, first paragraph (written description), is overcome. Withdrawal of the rejection is therefore respectfully requested.

Claims 17-20 and 24 are rejected under 35 U.S.C. §112, second paragraph, as allegedly indefinite for reciting a "functional MC4R".

Applicants respectfully submit that the presently amended claims do not recite "functional MC4R". Therefore, the rejection under 35 U.S.C. §112, second paragraph, is overcome. Withdrawal of the rejection is therefore respectfully requested.

Claims 13-20 and 24 are rejected under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent No. 5,622,860 (the '860 patent). The Examiner alleges that the '860 patent discloses an isolated polynucleotide encoding a human MC4R that is 94% identical to SEQ ID NO: 4 of the instant application, and 100% identical to of SEQ ID NO: 4 at positions 268-279 and 302-333.

As submitted above, claims 13-16 have been canceled. Claims 17-20 and 24, as amended, depend on allowed claims 11-12. Thus, the rejection of claims 13-20 and 24 under §102(b) based on the '860 patent is overcome. Withdrawal of the rejection is therefore respectfully requested.

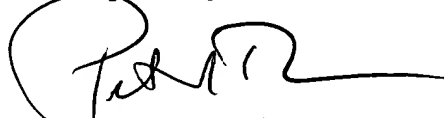
Claims 70-71 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over the '860 patent. The Examiner states that the '860 patent discloses an isolated polynucleotide encoding a human MC4R that 100% identical to SEQ ID NO: 4 at positions 268-279 and 302-

333. The Examiner admits that the '860 patent does not explicitly reference polynucleotides encoding these specific polypeptide fragments. However, the Examiner contends that it is obvious to those skilled in the art to recognize these polypeptide fragments as extracellular and intracellular regions of the MC4R molecule, and to make these fragments in order to study the properties of the MC4R molecule.

In an effort to favorably advance prosecution of the present application, Applicants have amended claims 70 and 71 to delete the references to positions 268-279 and 302-333. The '860 patent does not teach or suggest the polypeptide fragments presently recited in claims 70-71. Therefore, the '860 patent does not render claims 70-71, as presently amended, obvious. Withdrawal of the rejection under §103(a) based on the '860 patent is respectfully requested.

In view of the foregoing amendments and remarks, it is firmly believed that the subject application is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Peter I. Bernstein", with a large circular flourish on the left side.

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